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ABSTRACT

This document provides an annotated bibliography of the microcomputer documents and articles listed in ERIC's Resources in Education (RIE) and Current Index to Journals in Education (CIJE) through December 1981. The references were identified through a search of document abstracts and annotations. The document may be of value to elementary and secondary teachers, graduate students, and college/university faculty who want to locate information on microcomputers. References from RIE and CIJE are listed separately by access number. (MP)

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MICROCOMPUTERS IN EDUCATIONAL SETTINGS:

ANNOTATED BIBLIOGRAPHY

by

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Microcomputers in Educational Settings:

Annotated Bibliography

The rapid evolution of microcomputer hardware and software has led to the creation of microcomputerized coursework at nearly every instructional level, elementary through graduate. At the same time many important questions are being generated, such as:

(1) What is being done with microcomputers in mathematics? humanities? business education? natural sciences?

(2) What is known about the uses of microcomputers for management? tutorial? drill and practice? simulation?

(3) What are the uses of microcomputers in preschool? elementary? middle level? teacher education?

(4) Where can I get more information about software or courseware packages? hardware? some specific programs?

(5) Where can I go if I want information about a specific language? experimental research? a literature review? conferences and projects?

Since these questions arise continually, the authors decided to collect all microcomputer documents and articles in ERIC's Resources in Education (RIE) and Current Index to Journals in Education (CIJE) through December 1981, identifying them through a search of document abstracts and annotations. The product of such a task was felt to be of great potential value to public and private school elementary and secondary teachers, graduate students, and college/university faculty who want to locate information on microcomputers. This document lists the references which were located. A listing of these references by 41 descriptors has been published in ERIC/SMEAC Information Bulletin No. 3, 1982.

EJ DOCUMENTS

EJ 111 511 Computers: First the Maxi, Then the Mini, Now It's the Micro. Robinson, A. Science, 186, 4169, 1102, Dec 1974.

Article describing some of the architectural features of micro and mini-computers.

EJ 150 888 A Microcomputer Program for ANOVA Using a Tape Unit. Dreger, R. Educational and Psychological Measurement, 36 (3), Aut 1976. 4 pp.

An article describing a microcomputer program for a 2 way analysis of variance. A comparison is made between using tape data cards as storage mediums. The Olivetti P602 is used. The program is not listed.

EJ 150 889 A Microcomputer Program for Matrix Multiplication Using a Tape Unit. Dreger, R. Educational and Psychological Measurement, 36 (3), Aut 1979. 3 pp.

A microcomputer program for multiplying two matrices as large as 41x42 is described.

EJ 182 213 Microcomputers in the Classroom. Price, C. May 1978. 3 pp.

A general overview of the value of microcomputers in the classroom. Much of the article pertains to the state of the art of microcomputers in 1978.

EJ 183 758 The VCSD Pascal Project. Bowles, K. EDVCOM Bulletin 13 (1), Spr 1978.

Describes a small, stand-alone system for using the UCSD Pascal Language Environment.

EJ 183 882 Microcomputer Communication for the Handicapped. Scully, T. Peoples Computers, 6 (5), Mar-Apr 1978.

Describes a microcomputer program designed to aid the communication abilities of individuals with cerebral palsy.

EJ 183 883 Measuring Time on the PET and other Microcomputers. Tesler, L. People's Computers, 6 (5), Mar-Apr 1978. 3 pp.

The author explains how to use a microcomputer's (particularly the PET) "clock" in writing programs.

EJ 187 128 Hardware for the Humanist: What You Should Know and Why. Joyce, J. Computers and the Humanities, Sept/Oct 1977. 9 pp.

Discusses the need for humanists to be conversant with computer technology, especially personal computers.

EJ 189 071 Utilization of Educationally Oriented Microcomputer Based Laboratories. Fitzpatrick, M. and Howard, J. Journal of Computer Based Instruction, 3 (4) May 1977. 4 pp.

A paper describing a method of supplying comp. science educators with a low-cost digital systems laboratory. Features of the ASIP (A Small Integrated Processor) and Intel 8008 based system are discussed.

EJ 189 275 Education and the Microcomputer. Pastore, C. Community and Junior College Journal, 49 (2), Oct 1978. 2 pp.

An awareness article addressing microcomputers in education.

EJ 189 906 Computers and the Classroom. Baker, F. New York University Educational Quarterly, 9 (4), Sum 1978. 7 pp.

Discusses the implementation of computers in education during the previous two decades. Focuses on role of technological versus educational issues.

EJ 191 179 Microcomputers and Video Disc Systems: Magic Lamps for Educators? Braun, L. Calculators/Computers Magazine, Jan 1978. 5 pp.

Presents a state-of-the-art description of interfacing these two technologies. (First of three parts.)

EJ 194 569 Microcomputer vs. Minicomputer for Educational Computing. Matthews, J. Educational Technology, Nov 1978. 4 pp.

Discusses use of DELTA on a DEC PDP minicomputer. Presents systems characteristics or components needed and their selection.

EJ 205 193 Testimony to a Micro -- Peter Can Now Read. Pollard, J. Recreational Computing, May-Jun 1979. 5 pp.

Describes a case study of CAI to teach reading to a dyslexic child.

EJ 205 210 Microcomputers and Computer Assisted Instruction. Huntington, J. Educational Technology, 9 (5), May 1979. 6 pp.

Describes in depth the TRS-80 capabilities and the limitations of the Level I. Also included is a discussion on the memory, storage, peripherals, etc. Using the TRS-80 for CAI was discussed.

EJ 210 098 Classroom Computers: Beyond the 3 R's. Bell, F. Creative Computing, Sep 1979. 3 pp.

Discusses some ways microcomputers can be used in classrooms, especially in math.

EJ 214 641 Deschooling Media. Jonassen, D. Audiovisual Instruction, Nov 1979. 2 pp.

Briefly discusses role of microcomputers in a broad educational context of society.

EJ 214 646 Tomorrow's Education (Whether You're Ready or Not) Stahl, R. Audiovisual Instruction, Nov 1979. 2 pp.

Discusses the probable strong impact of microcomputers on individualization possiblities.

EJ 214 647 A Beginner's Guide to Microcomputer Resources. Goldberg, A. Audiovisual Instruction, Nov 1979. 2 pp.

Contains a 1979 listing of books, journals, magazines, and manufacturers.

EJ 214 677 Using the Microcomputer: One University's Experiences. Zinn, K.L. Educational Technology, 19 (11), Nov 1979. 2 pp.

Brief presentation of uses at the University of Michigan Center for Research on Learning and Teaching.

EJ 214 692 Personal Computers in Learning. Bork, A. and Franklin, S. Educational Technology, 19 (10), Oct 1979. 6 pp.

A general introduction for the novice. Discusses computer components, capabilities, and peripherals. Brief discussion of BASIC and Pascal.

EJ 214 693 Classroom Use of Microcomputers. Eisele, J. Educational Technology, 19 (10), Oct 1979. 3 pp.

General introduction in the uses of microcomputers in educational settings.

EJ 214 694 Microcomputer Software Development for Schools: What, Who, How? Blaschke, C. L. Educational Technology, 19 (10), Oct 1979. 3 pp.

Reports a survey of 1200 respondents who attended six national educational conferences. Discusses perceptions of elementary and secondary principals. Deals with general problems related to software development. Discusses trends related to networks.

EJ 214 695 Programming Languages for Micro Processor Courseware. Schuyler, J.A. Educational Technology, 19 (10), Oct 1979. 7 pp.

The authors describe highlights of the BASIC, PASCAL, PILOT and TUTOR languages. Also included are considerations of these programming languages which must be considered when writing courseware packages.

EJ 214 696 The Symbiosis of PLATO and Microcomputers. Brenner, L.P. and Agee, C.C. Educational Technology, 19 (10), Oct 1979. 9 pp.

The article describes how microcomputers and other networks (such as database systems) can work together in Computer-Based Education (CBE). The PLATO system was specifically discussed. Included in the article were the areas of cost, data collection, and delivery of material.

EJ 214 697 Mass Storage Media for Microprocessor-Based Computer-Assisted Instruction Systems. Attala, E.E. Educational Technology, 19 (10), Oct 1979 3 pp.

The article focuses on mass storage systems for microcomputers when used in CAI. These include floppy disks and cassette tape storage. Two other technological advancements, the magnetic bubble (MB) and the charge coupled device (CCD) are discussed in terms of their use in CAI in the future.

EJ 214 698 A Selected Glossary of Terms Useful in Dealing with Computers. Douglas, C.H. and Edwards, J.S., Educational Technology, 19 (10), Oct 1979. 10 pp.

The article consists of a glossary of several terms useful in computer literacy. All terms are defined in non-technical terms.

EJ 214 735 The PrestoDigitizer Tablet: A Low Cost Alternative to Data Entry Keyboard. Thornburg, D.D., Recreational Computing, 8 (4), Jan-Feb 1980. 3 pp.

The "PrestoDigitizer," a low-cost tablet that accepts the user's printing in place of the keyboard for data entry, is discussed. The tablet, similar to a graphic tablet, is capable of "learning" the user's printing style in order to input data into the computer. The tablet was designed as an aid for children, or others who lack proficiency with a standard keyboard.

EJ 214 736 PET Reading Program: A Learning Program for Problem Readers. Sevcik, E. and Sevcik, J. Recreational Computing, 8 (4), Jan-Feb 1980. 4 pp.

The author (Erik), a 16 year old dyslexic boy, has adapted a TRS-80 reading program for use with a commodore PET. (The TRS-80 program was described in the May-June issue of Recreational Computing.) A list of programs is included, as well as purchase information for the program tape.

EJ 215 482 Microelectronics and Music Education. Hofstetter, F.T. Music Educators Journal, 65 (8), Apr 1979. 8 pp.

The author briefly explains how and why microcomputers can be used in music education in the following areas: individualized instruction, tailoring learning experiences to student objectives, immediate feedback, and saving teacher time (less time is spent with slow students). Secondly, the author explains how technology is having an impact on music education. He explains how microcomputers can now be used in teaching music notation, singing, and orchestration and conducting.

EJ 215 657 Deliver More -- And Maybe Even Better -- Training for Less with Microcomputers. Smith, J. Training, 16 (9), Sep 1979. 7 pp.

The author describes how companies can make training new employees more effective and efficient by using computer-augmented instruction.

EJ 215 975 Energy Management Bulletin: Microprocessors for Physical Plant Control Systems. Palmer, H. and others, CEFP Journal, 17 (5), Sep-Oct 1979. 2 pp.

The article describes how a microprocessor can be used as an energy management processor to help manage a buildings environment.

EJ 216 208 Some Considerations in Selecting A Microcomputer for School. Nomeland, R. American Annals of the Deaf, 124 (5), Sep 1979. 9 pp.

The author discusses some steps to follow when considering purchasing a microcomputer. These steps include: determining individual needs, considering microcomputer capabilities and options, and others. The article also includes information on sources of microcomputers, microcomputer requirements for 7 types of uses (simulation, CMI, etc.).

EJ 220 471 Classrooms Make Friends With Computers. Spivak, H. and Varden, S. Instructor, 89 (8), Mar 1980. 3 pp.

The article gives a brief description of areas which should be considered when implementing CAI. These areas include types of programs for use with students as well as programs for the teacher's use.

EJ 220 472 So You Want to Buy a Computer. Wood R.K. and Wooley, R.D. Instructor, 89 (8), Mar 1980. 3 pp.

The authors discuss questions that should be considered when buying a microcomputer for classroom use. Some questions include: cost, language, audience, maintenance, expandability and others. A "computer shopping guide" chart is included listing some of these considerations. A reference section is also included.

EJ 220 473 The Computer Shopping Guide. Instructor, Mar 1980. 2 pp.

Computer shopping guide lists technical information about 8 microcomputers.

EJ 221 363 The Micros Are Coming. Miller, I. Media and Methods, Apr 1980. 5 pp.

Presents a good general overview of the 1980 state-of-the-art for teachers and administrators.

EJ 222 094 Microcomputer-Generated Graphic Displays as an Aid in String Indexing. Craven, T. Journal of The American Society for Information Science, Mar 1980. 2 pp.

Discusses a programming technique for reducing errors in indexing of strings by using graphic displays.

EJ 222 471 The First R: Reading Practice with TRS80 Voice Synthesizer. Rogers, J. Creative Computing, Apr 1980. 1 pp.

The program gives student drill in reading and saying the basic words that should be known at a given age.

EJ 222 830 What About Those Electronic Games? Bitter, G. Teacher, Nov-Dec 1979. 5 pp.

Lists and evaluates several computer games.

EJ 223 524 Microcomputers: Out of the Toychest and Into the Classroom. Levin, D. Executive Educator, Mar 1980. 3 pp.

Presents some adoption issues. Very general level of presentation. 1980 print resources.

EJ 223 525 Someday You'll Use Micros in the Central Office, Too. Levin, D. Executive Educator, Mar 1980. 2 pp.

Brief introduction to 1980 state-of-the-art for public school administrators.

EJ 223 568 Impact of Personal Computing on Education. McIsaac, D. AEDS Journal, Aut 1979. 9 pp.

Article contains three sections: 1) Identification of fundamental microcomputer parts and how they contribute to the functioning; 2) How other technologies affect the microcomputer; 3) Computer literacy as a problem solving tool.

EJ 223 569 The Role of Personal Computer Systems in Education. Bork A. and Stephen F. AEDS Journal, Aut 1979. 15 pp.

The article reviews the role of computers in the learning process. Many ways of using the computer to assist learners are discussed. The advantages of personal computers over time-sharing computers are considered.

EJ 223 570 Microcomputers Will Not Solve the Computers-in-Education Problem. Mourrand, D. AEDS Journal, Aut 1979. 10 pp.

The article addresses the questions of public school hardware shortage, shortage of software, courseware, trained teachers and supportive administrators.

EJ 223 571 Impact of Microcomputers on Educational Computer Networks. Kniefel, D. and Just, S. AEDS Journal, Aut 1979. 13 pp.

Microcomputers and mainframes are complementary computer environments. Both the long term and short term impacts of microcomputers are discussed with potential centralized support functions prepared.

EJ 223 572 Selecting Microcomputers for the Classroom. Thomas D. and McClain, D. AEDS Journal, 13 (1), Aut ____. 14 pp.

Selecting microcomputers for the classroom in terms of instructional strategy is discussed. A microcomputer selection model is included.

EJ 223 573 Problems In Selecting a Microcomputer for Educational Applications. Matthews, J. AEDS Journal, 13 (1), Aut 1979. 11 pp.

8 different areas for evaluating the educational applicability of microcomputers is discussed.

EJ 223 574 How Do I Choose a Personal Computer? Braun, L. AEDS Journal, 13 (1), Aut 1079. 7 pp.

Defining a vector of computer characteristics including: cost, portability and a variety of performance measures yields a single number which may be regarded as an objective figure of merit to be used as a purchasing guide for microcomputers for educators.

EJ 223 575 Assessing Inexpensive Microcomputers for Classroom Use: A Product Oriented Course to Promote Instructional Computer Literacy. Ricketts, D. and Seay, J. AEDS Journal, 13 (1), Aut 1979. 11 pp.

A Teacher In-Service class which focused on evaluating inexpensive microcomputers is described. Evaluative criteria is included. Brands evaluated were: PET, TRS-80, Ohio Scientific, Sorcerer, Apple, Compucolor, Heath Kit.

EJ 223 576 Microcomputer Software Development: New Strategies for a New Technology. Kehrberg, K. AEDS Journal, 13 (1), Aut 1979. 8 pp.

The paper provides a guide for the development of educational computer programs for use on micro's. Conversion of existing time sharing programs is discussed. Development of own programs is suggested.

EJ 223 577 The Integration of Microcomputers into the Classroom or Now That I've Got It! What Do I Do with It? Keyser, E. AEDS, 13 (1), Aut 1979. 5 pp.

The article discusses some of the problems that teachers may encounter when integrating the microcomputer into the classroom environment. The paper attempts to give some examples for use emphasizing the positive features of the machine.

EJ 223 578 Microcomputer Networks for Introductory Computer Science. Magel, K. and Hamblen, J. AEDS, 13 (1), Win 1980. 8 pp.

A course is described which involves the debugging of assembly language programs. A network of 11 computers is described. A course outline is provided. The INSAI computer is used and described.

EJ 223 595 A LEAP (Logistically Efficient Approach) to STATE Implementation: A Micro Technology-based Strategy for Technical Assistance. Pogrow, S. AEDS Journal, 13, (2), Win 1980. 11 pp.

An article describing how LEAP, a new model for providing state technical assistance to help districts implement mandates which have data management implications, enhances the traditional in-service model. LEAP adds a microcomputer and software component.

EJ 224 340 Topics in Chemical Instrumentation: CII Automated Anodic Stripping Voltammetry. Stock, J. Journal of Chemical Education, 57 (4), Apr 1980. 10 pp.

An article describing the hardware developed to perform Automated Anodic Stripping as part of a chemistry laboratory project. An Altair microcomputer and a Heathkit ETW-3400 are mentioned.

EJ 225 598 Microcomputers and University Teaching. Huntington, J.F. Improving College and University Teaching, 28 (2), Spr 1980. 3 pp.

An article arguing for the use of microcomputers in classrooms is presented. Comparison between micros and PLATO, TICCIT, and IBM 1500 instructional system is made.

EJ 225 827 The Children's Media Data Bank. Hines, T. Top of the News, 36 (2), Win 1980. 5 pp.

Presents a machine readable database on 10,000 trade titles available for children in different medias.

EJ 226 388 Integrating the Microprocessor into Two and Four-year Technical Education. Davis, T. Engineering Education, 70 (8), May 1980. 3 pp.

Describes the laboratory and course sequence in an engineering technology program.

EJ 226 854 Computer Animation Helps Children to Learn. Bryan, S. On Computing, Sum 1980. 2 pp.

Describes an animated program for teaching young learners to match upper and lower case letters.

EJ 226 857 A Do-It-Yourself Text Editor. LeVere, T. On Computing, Sum 1980. 13 pp.

Presents a discussion of the developmental process used to create an EDITOR program for Heathkit/TRS-80

EJ 226 858 A Writer Looks at Word Precessors. Pournelle, J. On Computing, Sum 1980. 5 pp.

Presents an evaluation and critique of several work processing software packages.

EJ 226 889 There's a Microcomputer in Your Future. Souviney, R. Teacher, Feb 1980. 6 pp.

A low-keyed article written primarily for elementary teachers. Introduces basic concepts.

EJ 226 891 Computers and Computer Resources. Bitter, G. Teacher, Feb 1980. 2 pp.

Short list of computers and resources (books and journals) available in early 1980.

EJ 227 107 Microcomputers in Business Education. Muscat, E. Business Education World, Mar/Apr 1980. 2 pp.

Presents a brief statement for business educators about trends and uses of hardware and software.

EJ 227 118 Microcomputer Application in Industrial Education. Matthews, J. Man/Society/Technology, 39 (6), Mar 1980. 3 pp.

Describes a set of statistics routines for use in social sciences research, both parametric and non-parametric. Lists the BASIC program for "Means, Standard Deviations and Intercorrelations."

EJ 228 134 Buying and Using Tomorrow's Computers in Today's Tertiary Institutions. Sungalia, H. Journal of Tertiary Educational Administration, May 1980. 6 pp.

Presents a general discussion of administrative trends and uses related to microprocessors and microcomputers.

EJ 228 295 Insights from a Microcomputer Center in a Rural School District. Joiner, L., et al. Educational Technology, May 1980. 5 pp.

Presents the implementation of a micro-computer lab in a K-12 building. Briefly discusses instructional and non-instructional outcomes.

EJ 228 312 Language and the Deaf: An Interactive Microcomputer-Based Approach. Sewell, D. et al. British Journal of Educational Technology, Jan 1980. 12 pp.

Discusses language development problems of deaf children. Describes the use of a software package, JUMBLE, to help deaf children acquire language concepts and skills.

EJ 228 659 Understanding How to Use Machines to Work Smarter in an Information Society. Molnar, A. Technical Horizons in Education, 7 (1), Jan 1980. 5 pp.

The author discusses several aspects of the impact of microcomputer technology on education. Included are innovative uses of microcomputers at MECC and the University of Wis (LOGO); computer literacy; and productivity and education. A lengthy reference section is included.

EJ 228 665 Computer Assisted Skills Assessment in the Secondary Math Curriculum. Schneider, M.S. Technical Horizons in Education, 7 (3), Mar 1980. 2 pp.

The author describes how a California high school used the TRS-80 to test students in multiplication facts. Purchase information is included for the software discussed in the article.

EJ 229 349 The Lawrence Hall of Science: Teaching Personal Computing in the Hills of Berkeley. Morgan, C. On Computing, 2 (2), Aut 1980. 7 pp.

The Lawrence Hall of Science is a creative learning center for use with students K-12, and teachers. The article explains how computers are utilized -- including hands on experience in all areas, in the classroom and in teaching literacy skills.

EJ 229 350 The Texas Instruments 99/4 Personal Computer. Morgan, C. On Computing, 2 (2), Aut 1980. 4 pp.

The article discusses the Texas Instruments 99/4 microcomputer. Included are the features, peripheral devices available, software available, and some limitations to the system.

EJ 229 352 Special Interest Microcomputing Publications. Colsher, W.L. On Computing, 2 (2), Aut 1980. 7 pp.

The article lists and describes and discusses briefly some of the special interest publications available for particular types of microcomputers and microprocessors. Most publications deal with the TRS-80 and the 6502 microprocessors. Address and rates for the publications are included.

EJ 229 661 Investing in the Future: Computers in Florida Education. Roblyer, M. D. Florida Vocational Journal, 5 (9), Jun 1980. 4 pp.

The article includes information from a study done by the Commissioner's Advisory Committee on Instructional Computing. Included is information on the impact of computers in education for both students and teachers; CMI, CAI, CAG (Computer Assisted Guidance), literacy and more.

EJ 230 948 Individual Graphing of Mathematical Functions. Schiffer, D. and Brooks, S. Creative Computing, 6 (8), Aug 1980. 2 pp.

The authors describe a simple program that will graph mathematical functions.

EJ 230 994 Microprocessor Multichannel Analyzer Laboratory Project. Munger, B.L. and Zammit, R.E. American Journal of Physics, 48 (8), Aug 1980. 3 pp.

The article describes an electronics course (at Humboldt State University, CA) in which students design and construct a simplified version of a multichannel analyzer (MCA). The microcomputer used in this course (the MMD-1) is described as well as the other necessary hardware. Through this course, the students learn programming, system design, and interfacing.

EJ 231 042 Some Notes From a Microcomputer Workshop. Oldknow, A. Mathematics Teaching, 53 (9), Jun 1980. 3 pp.

The author discusses some information discussed at the ATM microcomputer workshop, 1980. The topics include: graphics, film making, and problem solving. A very short program for problem solving is included.

EJ 231 577 Computers in Continuing Education. Bork, A. New Directions for Continuing Education, __ (5), 1980. 6 pp.

The article explains, in general terms, how computers can be used in adult education, including types of classroom uses, the advantages in using computers, and computers in the future.

EJ 231 592 Computer Assisted Instruction in Agricultural Education. Hudson, J.C. Agricultural Education Magazine, 53 (2), Aug 1980. 2 pp.

The article gives a general description of the ways in which microcomputers can be used in teaching agriculture. Included in the article are brief descriptions on drill and practice, tutoring, simulation, testing, games, and recording data (CMI).

EJ 232 050 To Register, Talk to this Computer .... Spangler, J.D. American School and University, 53 (1), Sep 1980. 2 pp.

The author describes how Brigham Young University has adapted an Apple microcomputer for use in student registration. The computer was adapted to this by adding a telephone modem, a voice recognition interpreter, and a device that changes numbers into speech.

EJ 232 511 The Microcomputer Revolution. Fosdick, H. Library Journal, 105 (13), Jul 1980. 6 pp.

Descriptive article concerning the hardware involved in mini and microcomputers that may be impacting library operations in the future.

EJ 232 512 The Microcomputer at Oakridge, Oregon. Christian, D. Library Journal, 105 (13), Jul 1980. 2 pp.

Describes how a microcomputer is used to check for overdue borrowers and how to find items by name, address, Dewey Decimal number, due date, author or title. The library welcomes inquiries.

EJ 232 523 The Use of Microcomputers in Libraries. Pratt, A. Journal of Library Automation, 13 (1), Mar 1980. 11 pp.

Presents material about on-line databases libraries access. Briefly discusses text processing and bibliography preparation.

EJ 232 606 Current Research. Aaron, S. School Media Quarterly, 8 (4), Sum 1980. 4 pp.

Covers many areas, primarily views microcomputers as they are used in library systems.

EJ 232 615 How to Make the Right Decision About Microcomputers. Milner, S. Instructional Innovator, 25 (6), Sep 1980. 8 pp.

Several topics are presented. Most topics are used as measures for the purchase of a microcomputer.

EJ 232 616 Computers Blossom at a Small School in Iowa. Lockard, J. Instruction Innovator, 25 (6), Sep 1980. 2 pp.

A small college in Iowa purchased microcomputers in 1978 and used them to improve learning at the college.

EJ 232 617 Resources Are Macro for Micros. Instructional Innovator, 25 (6), Sep 1980. 3 pp.

Three pages of addresses for: microcomputer manufacturers, software, computer magazines, newsletters, clubs, user groups, software book publishers.

EJ 232 627 Into the 80's with Microcomputer-Based Learning. Aiken, R. and Braun, L. Computer, 13 (7), Jul 1980. 6 pp.

The teacher may become less of a lecturer and more of a consultant. Administrators, parents, and funding agencies must be convinced of micro's effectiveness.

EJ 232 628 10,000 Microcomputers for French Secondary Schools. Hebenstreit, J. Computer, 13 (7), Jul 1980. 5 pp.

The training of teachers in CAI is a major preoccupation of the French educators. They feel CAI is effective if it is used by experienced teachers.

EJ 232 631 The Automated Dictionary. Fox, M. and others. Computer, 13 (7), Jul 1980. 15 pp.

The automated dictionary is a computer based device that holds all or part of a dictionary and allows access to and the display of entries. The article discusses what information should be stored, what size and style should the dictionary be, and the physical components.

EJ 233 502 Three New TRS-80 Computers: A Product Report. Miastkowski, S. On Computing, 2 (3), Win 1980. 7 pp.

A product report on TRS-80 computers.

EJ 233 503 Two Programs from a Young Eighth Grader. Bahcall, S. and Harold N. On Computing, 2 (3), Win 1980. 5 pp.

Article describing the programs written by an 8 year old boy named Safi.

EJ 233 504 Choosing the Right Computer: A General Method. Shetler, S. and Shetler, P. On Computing, 2 (3) Win 1980. 5 pp.

Discusses the following factors for consideration in choosing a computer: hardware, software, environmental considerations, maintenance, compatibility, user groups, financial.

EJ 234 638 Guidelines for Developing Basic Skills Instructional Materials for Use with Microcomputer Technology. Caldwell, R. Educational Technology, 20 (10), Oct 1980. 6 pp.

Offers several suggestions for creating good software and program design.

EJ 234 645 Microcomputers and Academic Grading. Strang, H. Educational Technology, 20 (10), Oct 1980. 2 pp.

Article describing the design of a typical grade management program developed at the School of Education, University of Virginia.

EJ 235 072 Integrating Microcomputers and Microelectronics into the Physics Curriculum. Douglas G. American Journal of Physics, 48 (10), Oct 1980. 3 pp.

Describes the microcomputer and microelectronics curriculum offered jointly by the Physics and Computer Science departments of East Texas State University.

EJ 235 154 NEWS. Technological Horizons in Education, 7 (6), Nov 1980. 3 pp.

Article describing the process that the Houston Independent School District went through in purchasing 600 Apple II's. Mentions several good considerations for administrators to consider in buying computers.

EJ 235 158 NAPA College Programs Students for Careers in Microelectronics. Technological Horizons in Education, 7 (6), Nov 1980. 1 pp.

Article describing NAPA Community College's Microelectronics course of study, developed and headed by Professor Ernest L. Abbott.

EJ 235 160 Space Age Multi-CPU Computer Network is Just for Fun and Education, Too. Technological Horizons in Education, 7 (6), Nov 1980. 1 pp.

Describes Sesame Place: a computerized play park developed by producers of Sesame Street TV. Located in Northeast Philadelphia, it is a network of 56 Apple II's linked by 3 Nestar Cluser/One Model A Hard Disc system.

EJ 235 162 Information Technology for Education: An Agenda for the 80's. Melmed, A. Technological Horizons in Education, 7 (6), Nov 1980. 3 pp.

Descriptive article mentioning many areas of CAI. Videodisc/computer link up is also mentioned.

EJ 235 165 Microcomputers and Videodiscs: Innovations of the Second Kind. Molnar, A. Technological Horizons in Education, 7 (6), Nov 1980. 5 pp.

A descriptive article, from the National Science Foundation, mentioning research in courseware, videodiscs, and intelligent video discs. Social trends in use of computers is also mentioned.

EJ 235 894 Designing Interactive Video Programs. Floyd, S. Training and Development Journal, 34 (12), Dec 1980. 5 pp.

An article addressing the development of Video/interactive programs. Discusses a typical model for development.

EJ 235 940 Micro-Computer Management of Learning for TEC Courses. Guggenhiem M. and Lazenby, P. Vocational Aspect of Education, 32 (81), Apr 1980. 5 pp.

TEC = Technicians Education Counsel (Great Britian). Article describing the development and workings of a Tutorial and Testing education system for technical training. The system is based on a microcomputer (8K PET).

EJ 236 760 Microcomputers for Gifted Microtots. Doorly, A. G/C/T, (14), Sep-Oct 1980. 3 pp.

Examines the use of microcomputers with gifted, primary school children.

EJ 236 809 MicroComputers in the Service of Students and Teachers: Computer Assisted Instruction at the Carolina School of the Deaf: An Update. Arcanin, J. and Zawolkow, G. American Annals of the Deaf, 125 (6), Sep 1980. 7 pp.

Reviews current uses of microcomputers in educating deaf students. Covers CAI from usage of both teachers and students at Carolina School of the Deaf.

EJ 237 006 Applying New Technology to Distance Education: A Case Study From The Open University of Difficulties in Innovation. Bates, T. Educational Broadcasting International, 13 (5), Sep 1980. 5 pp.

An article describing a distance education device called 'Cyclops.'

EJ 237 038 Personal Microcomputers in the Library Environment. Raithel, F.J. Journal of Library Automation, 13 (3), Sep 1980. 2 pp.

Software sharing services and personal computer networking made available through the Missouri Library Association are described. Instantext, a software sharing project and computer assisted staff development are described in detail.

EJ 237 060 The Study of Student Covert Behaviors with the Aid of Microcomputers. Clark, D.C., and Rogers, D.H. Educational Technology, Nov 1980. 4 pp.

Reviews literature on relations between teacher/student behaviors. Presents pilot information on a student response system in which students indicate via microcomputer input response pads their covert behaviors (e.g., attentiveness, interest, understanding) during actual instruction.

EJ 237 410 Applications of Microcomputers in the Teaching of Physics -- 6502 Software. Marsh, D. American Journal of Physics, 48 (11), Nov 1980. 5 pp.

Discusses the use of 6502 software using FOCAL. Program listed for use with a coupled harmonic oscillator.

EJ 237 469 Computer Series, II: The Use of CAI in the Teaching Laboratory. Engh, S. and Ratzlaff, K. Journal of Chemical Education, 57 (11), Nov 1980. 4 pp.

Discusses the use of hardware configurations in science instructional laboratories. Uses potentiometric titration as an example.

EJ 238 970 The Value of Simulations and Games in the Teaching of Science. Langton, N. H. and others. European Journal of Education, 15 (3), 1980. 10 pp.

Presents an extensive rationale for use of simulations or games in general and for science in particular. Describes several simulations related to physics and to social issues arising out of science applications in business. Developed in Scotland.

EJ 239 059 An Apple a Day: Microcomputers in the Public Library. Romans, A.F., and Ransom, S.A. American Libraries, 11 (11), Dec 1980. 3 pp.

Describes how a public library purchased an Apple computer for lower and middle income neighborhood. Details differences in age groups of users and how the scheduling was arranged to meet the needs of a variety of users from novices to programmers. The primary purpose was to develop computer awareness.

EJ 239 245 On Effective Documentation. Robinson, M. Creative Computing, 6 (11), Nov 1980. 3 pp.

Discusses need for documentation and makes several suggestions.

EJ 239 246 How to Solve It with the Computer. Part Three. Piele, D.T. Creative Computing, 6 (11), Nov 1980. 6 pp.

Presents lessons and programs for beginners (Apple graphics), and intermediate and advanced students (relations among binary, decimal and hexidemical number systems).

EJ 239 301 Model Experiment of Two-dimensional Brownian Motion by Microcomputer. Mishima, N. and others. American Journal of Physics, 48 (12), Dec 1980. 6 pp.

Describes the use of a microcomputer to study a physics phenomenon. Lists the program used.

EJ 239 333 So You've Got a Microcomputer in Physics Class -- Now What? Milsop, M. Physics Teacher, 19 (1), Jan 1981. 2 pp.

Discusses use of microcomputers in beginning physics classes.

EJ 239 372 How to Solve It with a Computer. Piele, D.T. Creative Computing, 7 (1), Jan 1981. 10 pp.

Presents sample probability lessons and programs for beginners (RND using colors), intermediate (coin flipping), and advanced students (debugging programs).

EJ 239 746 Computing at a New Public High School for Gifted Students. Davis, S. and Frothingham, P. On Computing, 2 (4), Spr 1981. 4 pp.

Article describing the beginning and development of a computer literacy program at the North Carolina School of Science and Mathematics.

EJ 239 747 Seven Hints for Computer Aided Instruction Using Your TRS-80. Anderson, J. On Computing, 7 (4), Srp 1981. 5 pp.

Article describing 7 methods of improving CAI programming style.

EJ 240 541 How Can Microcomputers Help. Hope, M. Special Education; Forward Trends, 7 (4), Dec 1980. 3 pp.

British article, discusses how microcomputers can be used in special education in Britain.

EJ 240 543 Microcomputers in Special Schools. Hart, B. Special Education; Forward Trends, 7 (4), Dec 1980. 4 pp.

Bob Hart, senior inspector for schools and Ian Staples, teacher, describe microcomputers' value as a link between research and classroom teaching styles and some programs developed so far.

EJ 240 859 Learning By Interactive Programming: Micro Applications. DeLaurentus, E. Educational Technology, 20 (12), Dec 1980. 5 pp.

Discusses the hypothesis that "the microcomputer is best suited to educational systems where the student is in direct interaction with the computer.

EJ 240 860 A Successful Transition from Mini- to Microcomputer-Assisted Instruction. Gull, R. Educational Technology, 20 (12), Dec 1980. 2 pp.

Briefly discusses problem of changing from mini to microcomputer and how these problems were solved.

EJ 240 884 REFLES: An Individual Microcomputer System for Fact Retrieval. Bivins, K. and Palmer, R. Online Review, 4 (4), Dec 1980. 9 pp.

Describes a library software package developed at UCLA.

EJ 240 910 The Specification and Design of Educational Microcomputer Systems. Thorne, M. P. British Journal of Educational Technology, 11 (3), Oct 1980. 7 pp.

Thorne contends that the current use of microcomputers in the British education system is dogged by a mainframe philosophy. Thorne suggests that urgent research is necessary so that decisions can be made on strong educational grounds and indicates some appropriate research topics.

EJ 240 911 Microcomputers and Education: Planning for the Coming Revolution in the Classroom. Dicerson, L. and Pritchard, W. H., Jr. Educational Technology, 21 (1), Jan 1981. 7 pp.

The authors state, "There appears to be a random hit or miss approach to microcomputer use in the public schools." Reasons for the approach are given, gaps in current microcomputer use are identified. Data collected from Florida school districts are included.

EJ 240 914 Microcomputers in Social Studies: An Innovative Technology for Instruction. Saltinski, R. Educational Technology, 21 (1), Jan 1981. 4 pp.

Article points out statistical and simulation use for social science. Makes suggestions for hardware and software purchases.

EJ 241 088 Microcomputers in the Teaching Lab. Tinker, R.F. Physics Teacher, 19 (2), Feb 1981. 12 pp.

Explores the use of microcomputers applications in instrumentation in scientific experiments in labs. Briefly describes more than a dozen applications including Fourier Analysis, radioactive half-life, and linear dynamics. Discusses computer capabilities and analysis arguments for and against their use.

EJ 241 097 How We Do It: Microcomputers -- How Do You Get Started? Larson, L. Journal of College Science Teaching, 10 (4), Feb 1981. 3 pp.

Explains some terminology. Article is a personal account of how a college teacher went from no knowledge to one of confidence regarding microcomputing and its application.

EJ 241 205 Microcomputer Listens to the Coefficient of Restitution. Smith, P. and others. American Journal of Physics, 49 (2), Feb 1981. 5 pp.

Describes a specific application in a physics laboratory.

EJ 241 230 Fluid Power Multi-Actuator Circuit Board with Microcomputer Control Option. McKechnie, R.E. and Vickers, G.W., Engineering Education, 71 (5), Feb 1981. 4 pp.

A portable laboratory and class demonstration apparatus is described. This apparatus was designed to enable students to design, build, and test multi-actuator circuits. The cost and application to teaching are discussed.

EJ 241 264 Apparatus for Teaching Physics: Microcomputer Timing. Gottlieb, H.H. Physics Teacher, 19 (3), Mar 1981. 4 pp.

Presents idea that microcomputers, with a minimum of external circuitry and a simple program that can be otained from the author, can be used as an accurate and versatile timing device.

EJ 241 922 How to Buy Microcomputers ... and How and Where to Use Them. Carter, J. A., Jr. School Shop, 40 (8), Apr 1981. 6 pp.

The first part of the article describes some basic considerations when purchasing a microcomputer for use in a classroom. These considerations include cost, size, reliability, service ability, available documentation, and others. Some basic information about hardware is included. The second section of the article focuses on how to set up computers in the classroom (or computer lab) for the most efficient use of space and accessibility.

EJ 242 756 Computer Technology: State of the Art. Withington, F.G. Journal of the American Society for Information Science, 32 (2), Mar 1981. 7 pp.

The author describes in technical terms, the current state-of-the-art of computer hardware (including I/O devices, computer systems designs, and logic and memory building blocks). The second section of the article explains ways these computer systems are important to the user. The areas discussed include operating systems, program-writing aides, database management systems, communication control programs, and utility programs.

EJ 242 777 The Role of Microcomputers in Libraries. Lundeen, G. Wilson Library Bulletin, 55 (3), Nov 1980. 8 pp.

The article gives a brief description of the characteristics of microprocessors and microcomputers. The remainder of the article focuses on using microcomputers in cataloging, circulation, acquisitions and serials, and reference and data base systems. Brief sections on future trends and computers in media are included.

EJ 242 888 Physics Notes (Interface That Makes a Computer Cost-Effective). Laraminie, J.R.J. School Science Review, 62 (219), Dec 1980. 18 pp.

This article describes an analogue to digital converter that enables microcomputers to be effectively used in teaching science at all grade levels.

EJ 242 994 Technician Program Uses Advanced Instruments. Stinson, S. Chemical and Engineering News, 159 (11), Mar 1981. 2 pp.

The article describes how Broome Community College (N.Y.), a 2-year college, has imlemented microcomputers into their chemistry program. The students use the computers in problem-solving and to check calculations. The computer keeps these calculations in file so that instructors can check student progress.

EJ 243 444 Educational Technology -- Fad or Educational Renaissance. Benedict, G. NJEA Review, 54 (9), May 1981. 2 pp.

The author describes the impact of technology on education. Also discussed are the implications of the use of computers in the schools -- at the present time and in the future.

EJ 243 450 Computer Pioneer. Potts, M. Instructor, 90 (10), May 1981. 2 pp.

Michael Potts is computer master for the Mendocino School District, Mendocino, California. A one page history concerning ideas for elementary student uses of microcomputers is presented.

EJ 243 456 Rushing Toward Courseware. Petrakos, P. 80 Microcomputing, (16), Apr 1981. 4 pp.

Discusses textbook company involvement in the development of educational software.

EJ 243 457 Disk Memories: What You Should Know Before You Buy Them. Bursky, D. Personal Computing, 5 (4), Apr 1981. 8 pp.

The article includes information to be considered when purchasing a disk drive: storage capacity, storage speed, transportability, system availability, and price. Included is information on hard and floppy disks, names and addresses of vendors, and a short glossary of terms.

EJ 243 458 Are Computers Hazardous to Your Child's Health? author unknown. Personal Computing, 5 (5), May 1981. 2 pp.

The possible long-range physical effects of prolonged use of video monitors is discussed. Included in the article is a discussion of X-radiation and vision problems associated with color and black and white video monitors.

EJ 243 459 Personal Computers: Products for Every Need. author unknown. Personal Computing, 5 (5), May 1981. 11 pp.

Information on the Apple (II and III), the Atari, Commodore (PET and CBM, Heath, Hewlett-Packard, Ohio Scientific Incorporated Challenger, Osborn, and the TRS-80 microcomputers are covered in this article. Included is information on memory, languages available, peripherals, price and ther information concerning each system. hardware No. 23.

EJ 243 520 The Chip that Roared: Of Micros and Men. Licata, C.M. and Inzinga, J. M. Business Education Forum, 35 (7), Apr 1981. 2 pp.

The authors describe how the National Technical Institute for the Deaf (NTID) at Rochester Institute of Technology (RIT) has modified their business education curriculum to include instruction in microcomputer programming and literacy to better prepare students for today's business world. A suggested course of study is included.

EJ 243 858 The Potential Is Great: Problems and Possibilities for CAI. Callison, W. NASSP Bulletin, 65 (445), May 1981. 5 pp.

For systems for CAI are discussed: TICCIT, PLATO, Apple II, TRS-80.

EJ 244 284 Microcomputers in Education: The State of the Art. Gleason, G. Educational Technology, 21 (3), Mar 1981. 12 pp.

Descriptive article covering generic CAI in the education field. References listed.

EJ 224 288 The Results of a 3-month PLATO Trial in Terms of Utilization and Student Attitudes. Jenkins, T. and Dankert, E. Educational Technology, 21 (3), Mar 1981. 4 pp.

Study report concerning amount of use and user attitude toward a PLATO system. Conducted at Mercer University, Macon Georgia. The material used in the system covered many areas of Liberal Arts Education.

EJ 244 307 Microcomputers in Personal Information Systems. Lundeen, G. Special Libraries, 72 (2), Apr 1981. 11 pp.

Article examines the present and near future capabilities of microcomputers for personal information systems. Requirements and hardware for those systems is also discussed.

EJ 244 312 Information Technology: A Bibliography. Wright, W. and Hawkins, D. Special Libraries, 72 (2), Apr 1981. 12 pp.

A selective annotated bibliography of 86 references on technological innovations that have impact on libraries.

EJ 244 321 Implications of Advances in Information Science and Technology for Institutions of Higher Learning. Parker, L. EDUCOM Bulletin, 16 (1), Spr 1981. 9 pp.

Summarizes how the North Carolina Educational Computing Service has responded to varying demands for service.

EJ 244 322 New Directions for a Regional Computer Network. Parker, L. Educom, 16 (1), Spr 1981. 5 pp.

A paper describing (1) the evolution of NCECS, North Carolina Educational Computing Service and (2) the services available through NCECS.

EJ 244 361 Telecommunications Technologies: New Approaches to Consumer Information Dissemination. Jones, M. Information Society 1 (1), 1981. 22 pp.

Discusses many uses of new technologies.

EJ 244 634 Calling Information: Telecomputing with Personal Computers. Licklider, T.R. Creative Computing, 7 (4), Apr 1981. 7 pp.

A critical report covering the two major subscriber accessed data bases: Micro-net and Source. The article discusses the services available from these two companies and several of their short comings.

EJ 244 635 A Minimal Message System Community Bulletin Board MCCCBBS. Ryan, T. Creative Computing, 7 (4), Apr 1981. 3 pp.

Describes a community access bulletin board set up by the Montgomery Community College of Pennsylvania. The system is based on an Apple II Plus.

EJ 245 084 Computer Tutors: An Innovative Approach to Computer Literacy. Targ, J. Educational Computer, 1 (1), May-Jun 1981. 3 pp.

Descriptive article of the Evolution of the Computer Tutor Project in Palo Alto, California. Talks about problems of staff, time and money.

EJ 245 085 Managing Instruction with a Micro. Gundlach, A. Educational Computer Magazine, 1 (1), May-Jun 1981. 4 pp.

The author describes how to use "Project Basic," a computer managed instruction program for use with the PET.

EJ 245 086 Setting the Stage for the Interactive Classroom of the 1980's. Hiraki, J. and Garcia, O.N. Educational Computer Magazine, 1 (1), May-Jun 1981. 3 pp.

A National Science Foundation CAUSE grant was awarded to Dept. of Computer Science and Engineering at the University of Florida. The article describes the hardware and software techniques to be used under this program.

EJ 245 087 Linking Computer to Curriculum Starts with the Teacher. Roberts, H. Educational Computer Magazine, 1 (1), May-Jun 1981. 2 pp.

A committee evaluated the Clover Park School District's use of computers in the classroom. The author describes the recommendation made, goals for future programs, and a training program provided for teachers and students (which included programming and computer literacy).

EJ 245 097 Seymour Papert: Spearheading the Computer Revolution. Nelson, H. and Friedman, R. On Computing, 3 (1), Sum 1981. 3 pp.

Article describing the LOGO language and Seymour Papert's work, in a general way.

EJ 245 098 Learning with LOGO. Nelson, H. On Computing, 3 (1), Sum 1981. 5 pp.

Article describing students working with the LOGO language.

EJ 245 099 A Beginners Guide to Memory. Hughes, E. On Computing, 3 (1), Sum 1981. 9 pp.

Computer awareness article explaining the many physical components of computer memory. An extensive discussion of memory types for the novice.

EJ 245 160 Match Your New Computer to Your Needs. Poppelbaum, T.L. On Computing, 3 (1), Sum 1981. 5 pp.

An article aimed at educating prospective buyers of microcomputers to some of the features of different systems that should be considered at purchase time.

EJ 245 101 Learning to Type With a Computer. Lozy, M. On Computing, 3 (1), Sum 1981. 2 pp.

The author critiques 3 software programs for teaching typing that are available for the TRS-80 ("Touchtyping I and II," "Microtyping," and "Typing Tutor.")

EJ 245 103 LEARNIT: A Memorization-Aid Program. Carlson, N. On Computing, 3 (1), Sum 1981. 5 pp.

Describes a program designed to help the learner memorize prose.

EJ 245 155 Today's Personal Computers: Products for Every Need -- Part II. author not listed. Personal Computing, 5 (6), Jun 1981. 8 pp.

Describes many types of computer systems. Brands reviewed are: ALTOS, Cromemco, Exidy, Intelligent, Intertec, Mattel, NEC, Northstar, Personal, and Sinclair.

EJ 245 276 Microcomputers: Impact on Society and Education. Alexander, W.J. Business Education Forum, 35 (8), May 1981. 4 pp.

Expounds reasons for computer literacy. Points out how to integrate microcomputers and computing into existing courses. States that microcomputers may serve as a basis for a course in data processing.

EJ 246 024 Computertown, USA?? Using Personal Computers in the Public Library. Zamora, R. School Library Journal, 27 (8), Apr 1981. 4 pp.

Summarizes the results of an NSF-funded project called Computertown, U.S.A.!, a literacy program implemented in the children's section of the Menlo Park Public Library in California. The project provided hands-on experience for people of all ages. A newsletter is available until 1983.

EJ 246 032 A Microcomputer System As a Tool for Research in Logical Thinking. DeLuca, F. and Scouten, D. Journal of Educational Technology Systems, 9 (1), 1980. 18 pp.

Summarizes the deficiencies of Piagetian Tasks and provides a description of the microsystem, advantages and disadvantages, which they developed. The system's purpose is to reduce bias and facilitate the testing of Piagetian tasks. Particularly concerned with data collection. Good example of a programmed Piagetian task included.

EJ 246 038 A Microcomputer Alternative for Information Handling: REFLES. Bivins, K. and Palmer, R. Information Processing and Management, 17 (2), 1981. 9 pp.

Describes a software system for library management (REFerence Librarian Enhancement System) developed at UCLA.

EJ 247 039 Computers and Videotapes Help Teach Physics at Houston. author not listed. American School and University, 53 (7), Mar 1981. 1 pp.

Describes the goals, facilities, staffing, and activities of a university Physics Learning Center.

EJ 247 444 Microcomputers in Colorado -- It's Elementary! Costa, B. Wilson Library Bulletin, 55 (9), May 1981. 4 pp.

Describes an application of a computerized library system (card-catalog) for use with elementary students. (An Apple II+ was used.)

EJ 247 472 Educational Tech Research: Computer Aided Learning of a Foreign Language. Engel, F.L. and Andriessen, J.J. Educational Technology, 2 (5), May 1981. 8 pp.

Uses P1400 time-sharing computer. Authors felt microcomputers were too small for their use. The authors found the use of an on-line computer to be fairly successful in teaching elementary age students a foreign language (English and German to Dutch-speaking students).

EJ 247 480 Microcomputers: Tools of the Present and Future. Lopez, A.M., Jr. School Media Quarterly, 9 (3), Spr 1981. 4 pp.

State of the art summary of trends in Spring 1981 in many areas related to education. Discusses both hardware and software.

EJ 247 481 Micros in the Library Media Center? Nicklin, R.C. and Trashner, J. School Media Quarterly, 9 (3), Spr 1981. 10 pp.

Discusses many current hardware and software trends and focuses attention on needs of library media centers. Reviews 1981 peripherals, costs, selection, and uses.

EJ 247 520 Computer Literacy for Teachers: High School and University Cooperation. Lopez, A.M., Jr. Educational Technology, 21 (6), Jun 1981. 4 pp.

Describes an inservice training program in computer literacy for 2 L.A. high schools (Loyola University assisted in the instruction). The instruction included an introduction to the computer, programming, intro to CAI, writing drill and practice programs and program modification.

EJ 247 679 Playing the Quantum Shuffling Game with Programmable Pocket Calculators and Microcomputers. Sauer, G. Physics Education, 16 (2), Mar 1981. 4 pp.

Presents a specific application in statistical physics.

EJ 247 712 A Microcomputer Self-Check and Demonstration for AC Series Circuits. Shaevel, M.L. Physics Teacher, 19 (5), May 1981. 2 pp.

Physics. Uses the TRS-80 to help students review circuitry using six parameters. Student analyses circuit and studies graphics displays. Program available from author (free).

EJ 247 931 Enter -- The Microcomputer. Cicciarella, C. Journal of Physical Education, Recreation, and Dance, 52 (6), Jun 1981. 2 pp.

The article explains how microcomputers can be applied to physical education and recreation. The areas discussed are data storage, control of peripheral devices, and CAI.

EJ 247 945 Effectiveness of Computers in Instruction. Charp, S. Viewpoints in Teaching and Learning, 57 (2), Spr 1981. 10 pp.

Discusses the uses of microcomputers.

EJ 247 947 Computers for Instructional Purposes/Case Study. Vannatta, G.D. Viewpoints in Teaching and Learning, 57 (2), Spr 1981. 8 pp.

Article traces history of the Indiana Public School System's development of computer literacy programs.

EJ 247 950 The Microcomputer and Instruction in Geometry. Kantowski, M.G. Viewpoints in Teaching and Learning, 57 (2), Spr 1981. 12 pp.

Article includes discussion on graphics capabilities of microcomputer, instruction of logico-deductive and spatial-visual aspects of geometry, congruency practice and tests that allow the students to govern the movement of polygons by commanding transformations.

EJ 247 951 Trigonometry-Mathematic Curricular Areas and Instructional Computing. Frandsen, H. Viewpoints in Teaching and Learning. 57 (2), Spr 1981. 14 pp.

Offers specific suggestions for six trig topics: introduction of functions (applications), solutions of triangles (inductive thinking), graphing functions, trig identities. Also discusses trends and lists some simple programs.

EJ 248 621 Microcomputers: An Available Technology for Special Education. Joiner, L.M. and others. Journal of Special Education Technology, 3 (2), Win 1980. 11 pp.

Presents a state-of-the-art summary and projected uses of microcomputers in special education.

EJ 248 904 Interactive Video Computer Learning in Physics. Kadesch, R.R. Journal of Ed Tech Systems, 9 (4), 1980. 11 pp.

Uses videodisc and microcomputer. Contains high level algorithm of 10 points. Discusses value of computer simulation and pedagogical considerations.

EJ 248 907 The Affective and Cognitive Effects of Microcomputer Based Science Instruction. Anderson, R.E. and others. Journal of Educational Technology, 9 (4), 1980. 27 pp.

Research done with 9-11 graders. Hypothesized that enriched graphics would produce positive cognitive and affective effects, whereas machine failure would produce negative effects.

EJ 249 132 A Primer for Word Processing. McComb, G. Creative Computing, 7 (7), Jul 1981. 5 pp.

An article describing the different features of a word processor, what they do, and what functions should be looked for in purchasing the software.

EJ 249 145 Interfacing Microcomputers: A Brief Guide for the Scientific User of S-100, TRS-80, PET, and Apple Microcomputers. Razlaff, K. Journal of Chemical Education, 58 (6), Jun 1981. 6 pp.

A fairly technical applications paper written for chemists, in particular. Aimed particularly at research uses.

EJ 249 157 Microprocessors in Schools? Cuthbert, L.G. Physics Education, 16 (3), May 1981. 6 pp.

The article is based on talks given at a conference -- "Microprocessors -- What Do Physics Teachers Need to Know?" -- held in Leeds, London. It examines reasons for including microprocessors in the school curriculum. These areas include (1) technical importance of microprocessors in electronic engineering, (2) impact on career prospects of the present generation of school children, and (3) the amount of microprocessor work that is gradually appearing in examination syllabuses.

EJ 249 159 Microcomputers in Physics. Sparkes, B. Physics Education, 16 (3), May 1981. 7 pp.

Four areas in teaching Physics are discussed: (1) data acquisition, (2) simulations, (3) CAI, and (4) record keeping.

EJ 249 198 Computer Series, 19: Bits and Pieces, 6. Moore, J.W. Journal of Chemical Education, 58 (7), Jul 1981. 8 pp.

Presents 11 short descriptions on the applications of computers in chemistry classrooms and laboratories.

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ED DOCUMENTS

ED 125 663 Higher Education and Final Papers presented at AEDS. Association for Educational Data Systems, May 1976. 46pp.

Contains 8 papers on microcomputers in higher education. Much of the content is applicable to other educational levels as well. Evaluation of Computer impact. Administrative and instructional uses. Chemistry. Hardware purchase procedures. Time sharing. Business courses. Physics. Biology. H. S. Gifted. Computer networks. Teaching computer programming. How to publish programs.

ED 135 388 Microcomputer Controlled, Interactive Testing Terminal Development. Kirby, P., Gardner E. Oct 1976. 27 pp.

The article describes the development for a self contained test scoring terminal (developed by the United States Air Force). Both software and hardware are discussed, as well as the programming language used, Pascal.

ED 160 068 MC Painting -- A New Medium for Art Education. Hicks, B., Zibit, M. Mar 1978. 11 pp.

The article describes the MC (microcomputer) Paintbrush and how it can be used to "paint" pictures on a color TV screen. The system includes an IMSAI 8080 microcomputer, and iCOM dual disk drive, the Crememco Dazzler interface, and the Cromemco joystick.

ED 160 076 Factors in Time -- Variable Learning Allowed by Computer Delivered Interactive Testing. Evans, R., Surkan, A. Sep 1977. 19 pp.

This study examined the relationships between final course grades (in an undergraduate educational psychology course) and "time to criterion over five course examination." The study "found time allowed for learning an important source of variation in mastering learning teaching strategy while academic aptitude was relatively unimportant. A lengthy reference section is included.

ED 164 010 Personal Computers for Science in the 1980s. Gammill, R. Feb 1978. 27 pp.

The author describes, in general terms, some aspects of personal computers. The remainder of the article discusses how personal computers could be used in scientific research, and how technology has made this possible, especially in rural areas. A reference section is included.

ED 168 902 A Microcomputer-Based Interactive Learning System. Mitchell, E. (ed.), Nov 1978. 8 pp.

Discusses use of interactive learning systems used with freshmen and sophomores in electrical engineering.

ED 172 772 Instructions for Microcomputer Painting. Koran, C., Hicks, B. Mar 1979. 27 pp.

Written for beginners, explains how to use University of Illinois microcomputer system for painting.

ED 172 779 A Multi-Purpose Ed Medium -- MC Painting. Zibit, M., Hicks, B. Oct 1978. 22 pp.

Describes microcomputer (MC) painting. Explains how MC painting is done and what the computer does.

ED 174 217 Microcomputers in Library Automation. Mitre Corp. Dec 1978. 56 pp.

Introduction to technology of automated library. Includes list of vendors supplying automated library system. Contains excellent glossary.

ED 175 433 Microcomputer Applications in Interaction Analysis. Wadham, R. Apr 1979. 14 pp.

Conducted at BYU. Goal was to discover how the behavior of the effective teacher differed from that of the non- or less-effective teacher.

ED 178 054 A General Introduction to Microcomputers. Muiznieks, V. Nov 1978. 19 pp.

Includes terminology, definitions and concepts that explain the microcomputer and computing technology in general.

ED 178 095 MSEA -- The Department's Microcomputers. Illinois Series of Educational Applications of the Computer, Report no. 27. Muiznieks, V. Dec 1978. 31 pp.

This report provides a technical description and operating guidelines for the IMSAI 8080 microcomputer in the Dept. of Secondary Education at the U. of I. Assembler language use for the machine is also discussed.

ED 181 903 A department-wide Undergraduate Teaching Laboratory Using Microcomputers. Levy, M. Apr 1979. 10 pp.

Paper presented at the Annual Meeting of The American Psychological Association. Educational opportunities related to time, space, and money are discussed as factors affecting the using of microcomputers in the psychology teaching labs at the University of Florida.

ED 182 139 Proceedings: DISE Workshop on Microprocessors in Education. Aug 1976. 111 pp.

(Discovery in Science Education.) This article covers the papers presented during 4 sessions of a workshop which addressed the role of microprocessors in education. Issues covered included: 1) views of microelectronic industry; 2) microprocessor architecture; 3) chip design; 4) impact on curriculum (mostly aimed at engineering); 5) microprocessor laboratories; and 6) microcomputer systems applications.

ED 183 199 Documentation -- INFO: A Small Computer Data Base Management System for School Applications. The Illinois Series on Educational Applications of Computers, No. 24e, Cox, J. 1979. 109 pp.

Presents program documentation for a data based management system called INFO. Contains programs, sample uses, programmer's guide.

ED 183 201 MC Pointing Manual A: A User's Guide. Hicks, B., Zibit, M. Jul 1979. 16 pp.

This manual provides detailed instructions for using the tools and procedures of microcomputer painting medium developed at U. of I. (Graphics Writing Software). Use of Apple II and BASIC programming commands are covered. The program used is "H21" -- developed at U. of I.

ED 183 202 Common PILOT. Ill. Series on Educational Use of Computers, No. 34. Cox, J. Jul 1979. 36 pp.

Manual presenting an overview of PILOT computer language.

ED 184 900 Multiple Technologies in an Instructional Intervention Program To Assist in Teaching Pre-Calculus and Calculus Courses. Theall, M. Apr 1980. 80 pp.

Concerns the use of videotape in teaching calculus. An effectiveness study is performed. Also discussed is the interfacing of videotape and computers to supplement the teaching of calculus.

ED 186 248 Some Alternate Applications of Microprocessor Trainers in Support of Undergraduate Laboratories. COED Transactions, Vol. XI, No. 12. Mitchel, E. Dec 1979. 21 pp.

Discusses use of microcomputers in undergraduate tasks in demonstrations and experiments.

ED 188 285 Conducting Energy Audits of your Schools: Or the Last One Out of Town, Please Turn off the Lights. Tetzloff, R. Apr 1980. 44 pp.

Article concerned with plant management. The microcomputer is used to help gather information and reduce costs by controlling environments within the building.

ED 190 111 Teaching Statistical Concepts Using Microcomputer Simulations. Stockburger, D. Apr 1980. 32 pp.

Reviews five uses of computers in teaching statistical concepts to researchers. Presents a BASIC program to simulate a one-way ANOVA experiment.

ED 190 116 Courseware Development for Micro-Processor Based Instruction in Music. Peters, G. Feb 1979. 8 pp.

Contains an assessment of hardware and courseware available in 1978 for providing music instruction. PLATO V and Apple II were used. Discussion of graphics, peripherals, maintenance, and delivery of music instruction via microcomputers.

ED 190 128 Creativity through the Microcomputer. Bass, G. Jun 1980. 6 pp.

Describes in a very general way the use of the Apple II in teaching creativity: a tone generator is used to help create melodies.

ED 190 129 Educational Implications of Microelectronics and Microprocessors. Harris, N. (ed.). Sep 1979. 50 pp.

Extended discussion of British engineering and trade problems. Discusses challenges to the British and problems with education, especially engineering. Brief report of discussions on schools and curricula.

ED 191 666 A Low Cost Microcomputer Laboratory for Investigating Computer Architecture. COED Transactions, Vol 12, n. 2. Mitchell, E. Feb 1980. 7 pp.

Describes a microcomputer lab at West Point with 16 stations.

ED 191 731 Graphical Input for Coordinate, Perimeter and Area Measurement. COED Transactions, Vol XII, n. 6. Mitchell, E. Jun 1980. 24 pp.

Presents hardware configuration which measures positions, areas, lengths. Educational and research applications are discussed. (Computers in Education Division of the American Society for Engineering Education)

ED 192 144 Microelectronics at Work: Productivity and Jobs in the World Economy. Norman, C. Oct 1980. 64 pp.

A comprehensive discussion of past, present, and future related to microelectronics and the related impacts on employment and world economics.

ED 192 718 A Gateway to the Use of Computers in Education (AEDS Proceedings). Association for Educational Data Systems. Apr 1980. 227 pp.

Contains 45 refereed papers from an annual convention. A very wide range of topics. Many papers have bibliographies. A list of titles/authors is given on pages iv, v, and vi. All presentations relate to educational settings.

ED 192 763 Professional Development and Educational Technology. Proceedings of the National Conference (Washington, D.C.). Association for Educational Communications and Technology. Jan 1980. 158 pp.

This collection of papers presented at a 3 day Conference focuses on "the use of communications technology for educational/instructional purposes." There were 3 main areas of concentration at the conference: 1) issues in educational technology, 2) case studies, and 3) recommendations for the future.

ED 192 818 Guide to Microcomputers. Frederick, F. 1980. 159 pp.

This article is an extensive guide to microcomputers. Some areas included are education, hardware/software, accessories, languages, graphics, data bases, CAI and CMI. Also included is an extensive list of resources (journals, software companies, books, etc.) The guide is written in easy-to-read terms.

ED 194 047 Computer Based Instruction: A New Decade. Proceedings of the Annual Conference of the Association for the Development of Computer Based Instruction Systems. Apr 1980. 321 pp.

This article consists of 50 papers presented at the 1980 ADCIS conference. Some of the topics include: special interest groups -- handicapped; computer based training; computer based instruction in music, health, home economics; instruction in basic skills for microcomputers, and a PLATO users group. An author index is included and each paper includes a short abstract and a reference section.

ED 194 060 Proceedings of NECC/2 National Educational Computing Conference, 1980. Harris, D. Jun 1980. 306 pp.

Papers, projects and conference reports given at the National Educational Computing Conference are included in this document. A variety of topics are thoroughly discussed (see abstract and index for list). Many articles include lengthy reference sections. (Computer programs listed are in FORTRAN and Machine Language -- none in BASIC.) An author index is included.

ED 194 710 The Microcomputer as an Interactive Instruction System in the Classroom. Jelden, D. Jun 1980. 248 pp.

This article describes a 4-year research project conducted at the University of Northern Colorado. The study focuses on "the application, restriction, and feasibility of a micro-system as an interactive, tutorial, instructional tool in a self-contained classroom."

ED 195 288 Computer Based Education -- The Best of ERIC. Hall, K. Nov 1980. 96 pp.

This article is a detailed, annotated bibliography including research, projects, journal articles, conference reports and other documents -- all relating to Computer Based Education (covering 6/76 to 8/80). Topics include: 1) historical references, 2) new technology, 3) new audiences (handicapped, etc.), 4) curriculum and content areas, 5) new developments in teacher training programs, 6) research in CAI, and 7) conference proceedings.

ED 196 160 Computerized Purchasing. Mazurek, J. Oct 1980. 9 pp.

The article gives, in outline form, a brief explanation of computer systems, hardware, software, and how the computer works. The article deals with using computer in purchasing -- little reference is made to education, per se.

ED 196 409 Individualized Learning Using Microcomputer CAI. Hinton, J. Mar 1980. 26 pp.

Reviews CAI literature of 1978 and 1979 listed on ERIC.

ED 196 416 Microterminal/Microfiche, System for Computer Based Instruction. Kottensette, J. and others. Oct 1980. 83 pp.

Research sponsored by Air Force to investigate effects of microterminals/microfiche on learning behavior.

ED 196 431 School Microware: A Directory of Educational Software. Dresden Associates. Sep 1980. 52 pp.

A directory of software available from 45 suppliers. Summaries are organized by subject and grade level.

ED 196 455 Microcomputers in Education: Application of Microprocessors in the schools. Tinker, R., Naiman, A. May 1980. 100 pp.

Focuses on New England states, covers the instructional software available for most commonly used microprocessors. Includes resource listing of courseware.

ED 198 791 A Multi-Media CAI Terminal Based Upon a Microprocessor with Applications for the Handicapped. Brebner, A., and Hallworth, H. Apr 1980. 10 pp.

Explains reasons for hardware selection. Briefly explains the use of a microcomputer to teach social arithmetic (functional mathematics) to handicapped individuals.

ED 198 810 A Next Step: A Computer Facilities Master Plan for Saddleback College. Campbell, D. and others. Feb 1979. 35 pp.

A needs assessment for the college indicated they could complement their NCR 200 with microcomputers. The rationale for and implementation of the computing system is described.

ED 198 812 Microcomputers in Education. Anderson, C. Oct 1980. 13 pp.

Paper designed to answer questions about microcomputer hardware, software, and applications to education. Explains some terms and concepts, prices listed are 1980 and earlier.

ED 198 815 An Overview of MICRO-CMI. McIsaac, D. and others. Nov 1980. 23 pp.

The MICRO-CMI system was designed at the University of Wisconsin. This system is designed for micro online computers and not for personal computers. MICRO-CMI is an administrative software tool.

ED 198 875 The MBRCC Student Records System Works! Traicoff, G. and others. Dec 1980. 15 pp.

Report describes a software cooperative. Describes hardware and software that make up a record keeping system.

ED 200 187 Computer Assisted Instruction in Schools: Achievements, Present Developments, and Projections for the Future. Hallworth, J., and Brebner, Ann. Jun 1980. 243 pp.

Overview of CAI traces development and use of computers in learning and instruction. Describes current CAI projects, i.e., PLATO, TACCIT, and others. Examines cost, student attitudes, and hardware, software, courseware.

ED 200 188 Computer Assisted Instruction in Schools. Hallworth, H., and Brebner, A. Jun 1980. 12 pp.

Discusses trends and issues in CAI.

ED 200 194 Schools, Computers and Libraries: Selected Resources from Course Projects Developed by Students in L.S. 8064-90, Villanova University, Fall Term, 1980. Brickley, R. Jan 1981. 71 pp.

A resource booklet containing projects carried out or researched by students in a library science class. Several good bibliographies are listed.

ED 200 275 Desk Top Computers. Merchant, R. Jan 1981. 7 pp.

Description of a self directed course at Spokane Falls Community College in introduction to microcomputers using the TRS-80. The course emphasizes hands-on experience and is designed for business students.

ED 200 284 Microcomputer Tutorial Assistance Project. Kamm, S. 1981. 21 pp.

Project report summarizing the development of 50 tutorial packages for microcomputers to be used in university math and science departments.

ED 200 449 Early Adolescent Use of Selected Problem Solving Skills Using Microcomputers. Cox, D. 1980. 264 pp.

Ph.D. dissertation. Reports the results of two pilot studies and a research project conducted with 66 seventh and eighth graders. Two areas of emphasis: problem solving and data organization. Five BASIC programs were developed by a professional programmer: Energy at Home, Global Travelers, Try a Matrix, Data Retrieval, Vertebrate Pets.

ED 201 305 The Learner and the Computer. Ayers, G. Oct 1980. 9 pp.

Paper presented at the National Conference on Computer Based Education, Minnesota. Gives a brief description of the history and future trends of microcomputers in education, and an overview of learning styles of 4 groups (disadvantaged and underprepared, adult learners, handicapped, and youth) and how these learning styles can be used with computer assisted instruction.

ED 201 307 Exploring the Microcomputer Learning Environment. Loop, L., and Christensen, P. Nov 1980. 90 pp.

This article summarizes the current "state-of-the art" of the educational use of microcomputers, and discusses a develop a taxonomy to characterize computer-augmented learning of computer readiness. This research was based on a review of literature, observations, and interviews. A lengthy reference section is included.

ED 201 346 Discovery Learning in Trigonometry Using Microcomputers. Kelly, J. Oct 1980. 104 pp.

Software development funded by the Apple Educational Foundation. Six discovery learning units are presented which are to be used as supplemental work. Ninety pages of print material and sample program output are presented.

ED 201 410 Exploring with Computers in Viking Land. Association for Educational Data Systems, May 1981. 319 pp.

Reports a summary of conference. presentations. Sixty-six short papers were presented. Some of the topics covered were: 1) Data Base Management for a school system; 2) LOGO and Turtle graphics; 3) secretarial sciences; 4) PLATO; 5) Time sharing; 6) suggestions for the development of Computer Based Curricula; 7) Micro Sift to Microcomputer Educational Clearing House, Portland and Oregon; 8) Portability of graphics and courseware packages; 9) software evaluation; 10) educational data processing; and 11) comps/ and videodisks.

ED 201 754 Mini-computers and the Building Trades: A Guide for Teachers of Vocational Education. Asplen, D. and others. Aug 1980. 58 pp.

Training materials developed under the auspices of the Pennsylvania State Department of Education. Teacher training materials to help vocational education teachers introduce students to operation and installation of small computers in residential and business buildings. Especially for teachers of electricity, heating, and AC. Chapter one is devoted to awareness issues. Contains student worksheets. Extensive bibliography for vocational/technical users.

ED 202 452 A Technology Assessment of Personal Computers Vol I. Niller, J. 1980. 79 pp.

Analysis of growth of technology, impact of technology, and public policy implications in education, employment, and international trade.

ED 202 453 A Technology Assessment of Personal Computers. VOL II. Niller, J. 1980. 121 pp.

Discusses computer history and terminology, future trends, generic hardware.

ED 202 454 A Technology Assessment of Personal Computers Vol III. Niller, J. 1980. 342 pp.

Detailed technological forecast and implications for international trade and employment in America.

ED 202 461 Computer Assisted Learning in U. S. Secondary and Elementary Schools. Chambers, J., and Beck, A. Jul 1980. 50 pp.

Discusses major impediments to microcomputer usage. Good bibliography.

ED 202 472 Fourth Plato Summative Report on the Delaware PLATO Project. Hofstetter, F. Jul 1979. 135 pp.

Article explains how PLATO is successful in educating people with the use of various computer systems. A conference report is in the article's concluding remarks.

ED 202 476 Preschool Children Use Apple II to Test Reading Skills Program. Piestrup, A. Jan 1981. 13 pp.

Field test of Apple II equipment in Stanford's preschool. Describes teacher observations and student interactions with the system.

ED 202 487 Comprehensive Long-Range Program for Library Services in Wisconsin, 1980-1985. Wisc. State Department of Public Instruction. Sep/Oct 1980. 66 pp.

This is an issue of the Wisconsin Library Bulletin devoted to long range planning for library services. Discusses the use of computers and communications technology (2 pages in chapter II). Outlines objectives and the work of the Automation Study Committee.

ED 202 707 Calculators and Microcomputers for Exceptional Children. Etingers, L., and Ogletree, E. 1981. 9 pp.

Explains how calculators and microcomputers benefitted students by reinforcing basic skills, reinforcing problem solving ability, promoting logic thinking and creativity.

ED 203 849 An Update on Computers in the Classroom. Walker, R. 1980. 16 pp.

Gives a brief overview of the development and the utilization of microcomputers in education -- including literacy, special ed, the disadvantaged, and the visually and hearing impaired (physically and mentally handicapped).

ED 203 872 Using Microcomputers for Composition Instruction. Connell, B., and Humes, A. Mar 1981. 10 pp.

Describes the use of an Apple II and a word processor in English Composition class.

ED 203 910 Exploration of Career Information Delivery Systems via Computerization. Moore, R. and others. 1981. 40 pp.

The article gives a brief description of 5 computerized career information systems: COIN, CVIS, CECIL, DISCOVER, GIS, SIGL, and MICRC. Information is given on how and where each system was used (5 different colleges/universities).

ED 204 144 Computers in the Secondary Mathematics Curriculum. Copple, C. Jun 1981. 34 pp.

Briefly summarizes over forty publications related to microcomputers in secondary education. Topics included status, computer literacy, teaching computer science, and computer assisted instruction. Good bibliography.

ED 204 381 I Refinement: Alaska. Hazelton, A. and others. Apr 1981. 25 pp.

School district was equipped with microcomputers for use of DBMS. The district used the system to evaluate the Title I project and programs of Title I students.

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